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RADIUM MONITORING NETWORK

DATA RELEASE NUMBER 12

PUBLIC HEALTH SERVICE, DENVER, COLORADO

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RADIUM MONITORING NETWORK

DATA RELEASE NO. 12

U. S. DEPARTMENT OF THE INTERIOR
FEDERAL WATER POLLUTION CONTROL ADMINISTRATION
COLORADO RIVER BASIN WATER QUALITY CONTROL PROJECT
DENVER, COLORADO

JANUARY 1968

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16. Abstracts
In this twelfth data release report, radium-226 and uranium results are presented that supplement data from 11 previous reports dated October 1962 through July 1967. The tabular data indicate evidence of uranium mining and milling from analysis of composite water samples at stations of the Radium Monitoring Network of the Colorado River Basin Water Quality Control Project. The network is a surveillance system consisting of continuous surface water sampling at 27 locations throughout the basin. It assays the radiological content of river water over the entire basin.

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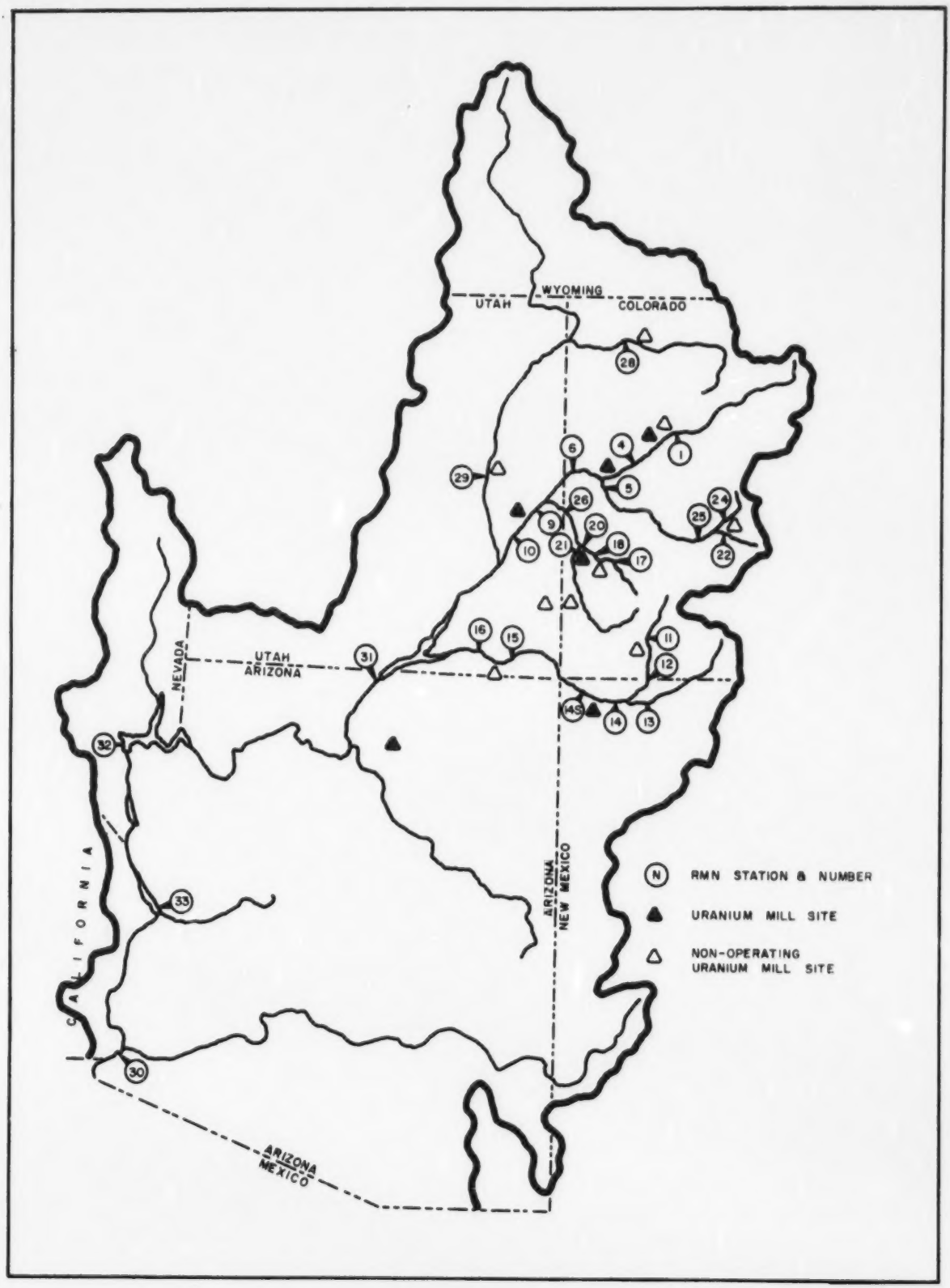

GPO 851-409

COLORADO RIVER BASIN RADIUM MONITORING NETWORK

COLORADO RIVER BASIN WATER QUALITY CONTROL PROJECT

RADIUM MONITORING NETWORK DATA RELEASE NO. 12

INTRODUCTION

This is the twelfth release of data collected through the Radium Monitoring Network, which is maintained by the Colorado River Basin Water Quality Control Project, Federal Water Pollution Control Administration. The purpose of this release is to supplement data given in the eleven previous releases dated October 1962 through July 1967.

A summary report of Radium Monitoring Network data collected through December 1963 was published in the November 1964 edition of Radiological Health Data, copies of which are now available through Colorado River Basin Water Quality Control Project Headquarters. A similar report of data collected through December 1964 was published in the November 1965 edition of the same periodical and reprints are available through the U. S. Government Printing Office.

The Radium Monitoring Network is a surface water surveillance system consisting currently of twenty-one sampling stations located on various streams and reservoirs throughout the Colorado River Basin. During initial stages of the surveillance program, the system consisted of twenty-seven sampling stations. The purpose of the network is to provide continuous monitoring of radioactivity concentrations of Basin surface water so that the contribution from uranium mining and milling industry waste discharges can be determined. Samples are analyzed for radium-226, uranium, gross alpha, gross beta, thorium alpha, lead-210, and strontium-90 to provide a comprehensive picture of contributions of radiological contaminants to surface waters of the Colorado River Basin by the uranium industry and by fallout from the testing of weapons.

SAMPLING PROCEDURES

Depending on individual station parameters, Radium Monitoring Network (RMN) samples are collected as either automatic or grab samples. Grab samples are collected once or three times per week and automatic samplers collected 21-ml. portions every hour. The samples are sent as collected to the Colorado River Basin Water Quality Control Project Laboratory where they are composited and filtered through 0.45-micron membrane filters as soon as possible after the samples for the compositing period are received. After filtration, samples are acidified with 2% by volume of 12 N HCl and radiochemical determinations are then performed on the filtered water.

SIGNIFICANT FIGURES

After a careful consideration of the accuracies and precisions involved in the various analytical procedures, it was decided to report data to two significant figures except in those instances where the lower limit of detection was being approached. In the latter instances, only one significant figure is reported. The last significant figure is usually an estimate.

In averages, three figures are retained if the precision and significance of the averaged data justify such retention. Thus, the overall averages for radium-226 at stations 11 and 26 are reported, respectively, as 0.05 and 1.13 picograms per liter.

RESULTS

The Appendix contains the dissolved radium-226 and uranium data collected since the eleventh data release along with averages for this reporting period and for the previous year. A summary of all data on radium-226 and uranium is given in Table 1. Mean annual concentrations of radium-226 for each station are given in Table 2. Gross alpha, gross beta, lead-210, thorium (alpha), and strontium-90 data on samples collected through December 1966 were reported in Data Releases Nos. 7, 8, 10, and 11; additional data on these parameters for the period January 1967 through March 1967 are presented in this release.

Radium-226 and uranium concentrations at most stations continue to average well below recommended maximum concentrations. The Dolores River at Gateway, Colorado, and the San Miguel River below Uravan, Colorado, now carry average radium-226 concentrations near one picogram per liter. Radium-226 concentrations at nine stations warrant comment.

The average radium-226 concentration in the Animas River at the New Mexico-Colorado state line for this reporting period was 0.10 picograms per liter as compared with 0.09 for the previous year and with 0.24 for the long-time average. A long-term improvement at this station is evident. A similar statement can be made concerning radium-226 concentrations at the stations above and below Mexican Hat, Utah, although the long-time changes are not as pronounced.

Radium-226 concentrations in the San Migurel River below Uravan, Colorado, averaged 0.98 picograms per liter as compared with 2.2 for the previous year and with 1.12 for the long-time average. A short-term improvement at this station has occurred. At Gateway, Colorado, radium-226 concentrations in the Dolores River averaged 1.05 picograms per liter as compared with 1.4 for the previous year and 1.13 for the long-time average. A slight short-term improvement at this station is evident. Uranium concentrations at these two stations averaged about 13 micrograms per liter during this reporting period.

The concentrations of radium-226 in the Colorado River at Page, Arizona, Lake Mead, Lake Havasu, and at U. S.-Mexican border showed either no significant change or slightly lower values.

Results of radiochemical analyses of quarterly composites of samples from selected stations of the Radium Monitoring Network are given in Table 3. The composited samples were analyzed for gross alpha activity, gross beta activity, strontium-90, thorium (alpha-emitting), lead-210, and polonium-210. The concentrations given for thorium, lead-210, and polonium-210 are near "background" levels or lower limits of detection and do not warrant comment. The strontium-90 concentrations vary with station, but are well below accepted standards.

The dissolved alpha activity below Uravan, Colorado, on the San Miguel River and above and below Moab, Utah, on the Colorado River are noticeably higher than at other stations. The alpha activities below Moab are somewhat higher than those above Moab indicating some pollution between the two locations. The dissolved beta activities are also higher at the same three stations.

TABLE 1

RADIUM-226 AND URANIUM CONCENTRATIONS IN SURFACE WATERS OF THE COLORADO RIVER BASIN

Station Number and Location	Radium-226 Av.[a] pg/l	Radium-226 Range pg/l	Radium-226 No. of Analyses	Uranium Av.[a] µg/l	Uranium Range µg/l	Uranium No. of Analyses
Animas River						
11 above Durango, Colorado	0.05	0.00-0.11	68	1.2	0.1-2.9	62
12 Colorado-New Mexico State Line	0.24	0.03-1.5	119	3.2	0.0-18	77
Colorado River						
1 at Silt, Colorado	0.19	0.04-0.39	74	3.1	0.0-4.4	60
4 at DeBeque, Colorado	0.19	0.05-0.44	75	3.4	0.4-7.2	60
6 at Fruita, Colorado	0.18	0.09-0.40	69	8.5	2.0-14	60
9 above Moab, Utah	0.26	0.10-0.52	102	9.7	2.4-31	89
10 below Moab, Utah	0.44	0.16-7.2	98	11	3.0-22	85
31 at Page, Arizona	0.19	0.04-0.36	46	6.8	2.8-13	47
32 Lake Mead	0.36	0.21-0.60	55	8.0	5.0-11	55
33 Lake Havasu	0.36	0.26-0.44	57	8.0	5.4-11	57
30 at Yuma, Arizona	0.17	0.06-0.33	65	7.7	2.0-11	60
Dolores River						
21 at Bedrock, Colorado	0.43	0.03-1.4	72	10	0.1-35	59
26 at Gateway, Colorado	1.13	0.04-3.3	110	15	0.1-51	88
Green River						
28 below Maybell, Colorado	0.09	0.03-0.15	36	2.7	0.6-8.0	32
29 below Green River, Utah	0.09	0.05-0.15	29	5.0	1.6-7.6	26

TABLE 1(Contd)

RADIUM-226 AND URANIUM CONCENTRATIONS IN SURFACE WATERS OF THE COLORADO RIVER BASIN

Station Number and Location	Radium-226			Uranium		
	Av.[a] pg/l	Range pg/l	No. of Analyses	Av.[a] µg/l	Range µg/l	No. of Analyses
Gunnison River						
24 above Gunnison, Colorado	0.05	0.01-0.08	43	1.2	0.0-2.6	33
25 below Gunnison, Colorado	0.04	0.01-0.09	46	2.3	0.4-4.3	33
5 at Grand Junction, Colorado	0.09	0.01-0.30	69	10	0.7-19	60
San Juan River						
13 above Farmington, N. M.	0.07	0.03-0.16	20	2.8	0.0-8.3	19
14 below Farmington, N. M.	0.07	0.03-0.21	62	2.9	0.3-9.0	61
14S below Shiprock, N. M.	0.08	0.03-0.28	165	9.1	0.1-93	161
15 above Mexican Hat, Utah	0.12	0.04-0.66	67	6.2	1.4-23	54
16 below Mexican Hat, Utah	0.12	0.01-0.84	145	18.6	0.8-35	127
San Miguel River						
17 above Naturita, Colorado	0.04	0.00-0.14	88	2.0	0.0-6.5	60
18 above Uravan, Colorado	0.21	0.03-1.2	121	5.8	0.8-63	90
20 below Uravan, Colorado	1.12	0.06-25	289	23	0.0-150	260

a Average concentration obtained from all data presented in this and previous data releases.

TABLE 2

MEAN ANNUAL CONCENTRATIONS OF Ra-226
IN WATER AT MONITORING NETWORK STATIONS, 1961-1966

Values in Picograms per Liter

RMN Station No.	Location	Years 1961	1962	1963	1964	1965	1966
1	Colorado River at Silt, Colorado	0.18	0.15	0.23	0.25	0.16	0.20
4	Colorado River above DeBeque, Colorado	0.20	0.16	0.23	0.22	0.17	0.18
5	Gunnison River above Grand Junction, Colorado	--	0.07	0.11	0.12	0.07	0.09
6	Colorado River near Fruita, Colorado	--	0.17	0.21	0.18	0.17	0.16
9	Colorado River above Moab, Utah	0.34	0.24	0.29	0.27	0.19	0.26
10	Colorado River below Moab, Utah	0.41	0.33	0.54	0.32	0.27	0.39
11	Animas River at Durango, Colorado	0.05	0.05	0.06	0.05	0.04	0.05
12	Animas River at Colorado-New Mexico State Line	0.37	0.37	0.23	0.13	0.09	0.09
13	San Juan River above Farmington, New Mexico	--	0.08	0.07	0.04	--	--
14	San Juan River at Fruitland, New Mexico	--	0.12	0.12	0.07	0.06	0.05
14S	San Juan River below Shiprock, New Mexico	--	0.11	0.12	0.09	0.06	0.05
15	San Juan River above Mexican Hat, Utah	0.18	0.15	0.13	0.14	0.07	0.08
16	San Juan River below Mexican Hat, Utah	0.34	0.24	0.16	0.09	0.07	0.07
17	San Miguel River above Naturita, Colorado	0.02	0.04	0.04	0.05	0.05	0.05
18	San Miguel River above Uravan, Colorado	0.14	0.21	0.33	0.14	0.16	0.13
20	San Miguel River below Uravan, Colorado	0.98	0.84	1.34	0.86	0.46	1.92
21	Dolored River at Bedrock, Colorado	0.85	0.39	0.45	0.61	0.28	0.33
22	Tomichi Creek above Gunnison, Colorado	0.02	--	--	--	--	--
24	Gunnison River above Gunnison, Colorado	0.03	0.05	0.05	0.05	0.04	--
25	Gunnison River below confluence of Tomichi Creek, Gunnison, Colorado	0.04	0.04	0.05	0.04	0.03	--
26	Dolores River at Gateway, Colorado	0.42	1.38	1.03	1.13	0.67	1.20
28	Yampa River below Maybell, Colorado	0.11	0.09	0.09	0.09	0.06	--
29	Green River below Green River City, Utah	--	0.06	0.10	0.09	--	--
30	Colorado River at U. S.-Mexican Border	--	0.15	0.17	0.18	0.16	0.16
31	Colorado River at Page, Arizona	--	--	0.25	0.25	0.17	0.15
32	Colorado River at (Lake Mead) Boulder City, Nev.	--	--	0.33	0.31	0.41	0.41
33	Colorado River at Metropolitan Water District Intake, Lake Havasu, California-Arizona	--	--	0.35	0.36	0.36	0.39

TABLE 3

RADIOCHEMICAL ANALYSIS OF QUARTERLY COMPOSITE RMN WATER SAMPLES

Station Number and Location	Quarter Period[1/]	Gross α pc/l	Gross β pc/l	Sr-90 pc/l	Th (α) pc/l	Pb-210 pc/l	Po-210 pc/l	Date of Po-210 Determination
RMN 4 Colorado River at DeBeque, Colorado	1	6.1	7.6	0.5	n.d.	n.d.	n.d.	--
RMN 9 Colorado River above Moab, Utah	1	13	15	0.6	n.d.	n.d.	n.d.	--
RMN 10 Colorado River below Moab, Utah	1	22	19	n.d.	0.1	0.3	0.44	5/12/67
RMN 15 San Juan River above Mexican Hat, Utah	1	6.4	7.2	1.0	n.d.	n.d.	n.d.	--
RMN 16 San Juan River below Mexican Hat, Utah	1	6.2	7.7	n.d.	0.0	0.0	0.03	5/12/67

TABLE 3 (Contd)

RADIOCHEMICAL ANALYSIS OF QUARTERLY COMPOSITE RMN WATER SAMPLES

Station Number and Location	Quarter Period[1/]	Gross α pc/l	Gross β pc/l	Sr-90 pc/l	Th (α) pc/l	Pb-210 pc/l	Po-210 pc/l	Date of Po-210 Determination
RMN 20 San Miguel River below Uravan, Colorado	1	23	16	n.d.	0.3	0.2	0.06	5/12/67

1/ Quarter Period

1 January 1967-March 1967

A P P E N D I X

Results of Radium-226 and Uranium Analyses of Samples
from Individual Radium Monitoring Network Stations
for Current Reporting Period

RMN Station 1: Colorado River at Silt, Colorado
Started: November 25, 1961
Type: Automatic Pump-Timer

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 25-April 1	0.20	4.0
April 1-April 29	0.15	2.2
April 29-May 27	0.10	1.5
May 27-July 1	0.06	1.2
July 1-July 29	0.13	1.8
July 29-September 2	0.21	2.9
September 2-September 30	0.21	3.7
Current reporting period:		
Mean	0.15	2.5
Previous year:		
Mean	0.21	2.2
Std. Dev.	0.07	1.1

RMN Station 4: Colorado River above DeBeque, Colorado
Started: November 21, 1961
Type: Automatic Pump-Timer

Date	Radium-226 pg/liter	Uranium pg/liter
1967		
February 25-April 1	0.23	4.0
April 1-April 29	0.18	2.6
April 29-June 3	0.13	1.9
June 3-July 1	0.08	1.4
July 1-July 29	0.14	2.2
July 29-September 2	0.20	4.1
September 2-September 30	0.21	5.0
Current reporting period:		
Mean	0.17	3.0
Previous year:		
Mean	0.18	3.1
Std. Dev.	0.05	1.5

RMN Station 5: Gunnison River above Grand Junction, Colorado
Started: April 16, 1962
Type: Three grab samples per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 27-March 31	0.06	9.1
April 3-April 28	0.08	5.4
May 1-May 26	0.06	4.8
May 29-June 30	0.08	7.0
July 3-July 28	0.12	14
July 31-September 1	0.15	13
September 4-September 29	0.09	13
Current reporting period:		
Mean	0.09	9.5
Previous year:		
Mean	0.09	10
Std. Dev.	0.04	3.8

RMN Station 6: Colorado River near Fruita, Colorado
Started: April 16, 1962
Type: Three grab samples per week

Date	Radium-226 pg/liter	Uranium ug/liter
1967		
February 27-March 31	0.16	8.0
April 3-April 28	0.12	6.2
May 1-May 26	0.18	5.2
May 29-June 30	0.16	3.9
July 3-July 28	0.22	7.1
July 31-September 1	0.29	11
September 4-September 29	0.15	11
Current reporting period:		
Mean	0.18	7.5
Previous year:		
Mean	0.16	8.1
Std. Dev.	0.03	2.7

RMN Station 9: Colorado River above Moab, Utah
Started: December 11, 1961
Type: Three grab samples per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 27-March 31	0.23	9.0
April 3-April 28	0.20	6.4
May 1-May 26	0.26	6.9
May 29-June 30	0.17	3.8
July 3-July 29	0.52	8.5
July 31-September 1	0.30	12
Current reporting period:		
Mean	0.28	7.8
Previous year:		
Mean	0.25	9.1
Std. Dev.	0.06	3.7

RMN Station 10: Colorado River below Moab, Utah
Started: December 11, 1961
Type: Three grab samples per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 27-March 31	0.99	12
April 3-April 28	0.48	8.5
May 1-May 26	0.40	8.4
May 28-June 30	0.26	4.3
July 3-July 28	0.33	7.2
July 31-September 1	0.32	14
Current reporting period:		
Mean	0.46	9.1
Previous year:		
Mean	0.69	11
Std. Dev.	0.85	4.6

RMN Station 11: Animas River at Durango, Colorado
Started: July 17, 1961
Type: One grab sample per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
March 3-March 31	0.04	2.0
April 7-May 3	0.05	1.5
May 8-May 26	0.03	0.7
June 2-June 30	0.04	0.6
July 7-July 28	0.03	0.8
August 4-September 1	0.05	1.6
Current reporting period:		
Mean	0.04	1.2
Previous year:		
Mean	0.05	1.2
Std. Dev.	0.01	0.7

RMN Station 12: Animas River at Colorado-New Mexico State Line
Started: January 19, 1961
Type: Three grab samples per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 28-March 29	0.05	3.1
March 31-April 26	0.09	2.2
April 28-May 26	0.11	1.1
May 29-June 28	0.10	1.1
July 3-July 29	0.13	3.0
August 1-September 1	0.09	1.9
Current reporting period:		
Mean	0.10	2.1
Previous year:		
Mean	0.09	1.8
Std. Dev.	0.04	1.0

RMN Station 14: San Juan River at Fruitland, New Mexico
Started: August 1, 1962
Type: One grab sample per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 27-March 27	0.04	2.3
April 10-April 24	0.05	3.2
May 1-May 22	0.06	2.5
May 29-June 26	0.04	2.6
July 3-July 24	0.09	5.1
July 31-August 28	0.09	4.1
September 4-September 25	0.07	3.7
Current reporting period:		
Mean	0.06	3.4
Previous year:		
Mean	0.05	2.2
Std. Dev.	0.02	1.5

RMN Station 15: San Juan River above Mexican Hat, Utah
Started: December 11, 1961
Type: Three grab samples per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
March 1-March 30	0.05	4.3
April 2-April 28	0.08	7.0
April 30-May 25	0.07	6.4
May 28-June 30	0.12	3.4
July 2-July 28	0.12	6.8
July 30-September 1	0.08	6.1
Current reporting period:		
Mean	0.09	5.7
Previous year:		
Mean	0.08	4.3
Std. Dev.	0.02	1.9

RMN Station 16: San Juan River below Mexican Hat, Utah
Started: December 11, 1961
Type: Three grab samples per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
March 1-March 30	0.06	4.1
April 2-April 28	0.08	7.0
April 30-May 25	0.06	6.6
May 28-June 30	0.09	4.3
July 2-July 28	0.12	7.0
July 30-September 1	0.10	5.9
Current reporting period:		
Mean	0.09	5.8
Previous year:		
Mean	0.07	4.1
Std. Dev.	0.03	1.5

RMN Station 17: San Miguel River above Naturita, Colorado
Started: October 28, 1961
Type: Once grab sample per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 27-March 27	0.05	2.4
April 2-April 23	0.04	3.0
April 30-May 28	0.03	1.5
June 5-June 26	0.02	1.7
July 2-July 24	0.04	2.5
July 31-August 28	0.06	2.0
September 4-September 25	0.05	4.1
Current reporting period:		
Mean	0.04	2.5
Previous year:		
Mean	0.05	2.7
Std. Dev.	0.01	1.9

RMN Station 18: San Miguel River above Uravan, Colorado
Started: October 27, 1961
Type: Automatic Pump-Timer

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 27-March 27	0.15	3.7
March 27-April 23	0.09	3.5
April 23-May 28	0.17	2.8
May 28-July 3	0.11	2.7
July 3-July 31	0.10	2.7
July 31-September 4	0.25	4.5
September 4-October 2	0.13	5.1
Current reporting period:		
Mean	0.14	3.6
Previous year:		
Mean	0.12	3.7
Std. Dev.	0.04	1.7

RMN Station 20: San Miguel River below Uravan, Colorado
Started: October 9, 1961
Type: Automatic Pump-Timer

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 27-March 6	0.68	17
March 6-March 13	1.2	4.0
March 13-March 20	1.3	21
March 20-March 27	1.1	17
March 27-April 3	1.2	4.8
April 2-April 9	0.50	10
April 9-April 16	1.4	4.0
April 16-April 23	0.55	7.2
April 23-April 30	1.3	1.6
April 30-May 6	1.5	7.4
May 6-May 13	0.87	2.0
May 14-May 21	0.54	1.0
May 21-May 28	1.2	9.2
May 28-June 5	0.95	6.8
June 5-June 12	0.33	12
June 12-June 19	0.58	11
June 19-June 26	6.6	26
June 26-July 3	1.6	6.5
July 3-July 10	0.58	3.9
July 10-July 17	0.24	11
July 17-July 24	0.53	16
July 24-July 31	0.34	15
July 31-August 7	0.41	21
August 7-August 14	0.36	31
August 14-August 21	0.41	5.3
August 21-August 28	0.81	53
August 28-September 4	0.89	4.2
September 4-September 11	0.24	12
September 11-September 18	0.59	38
September 18-September 25	0.63	6.9
September 25-October 2	0.84	12
Current reporting period:		
Mean	0.98	13
Previous year:		
Mean	2.2	20
Std. Dev.	3.7	23

RMN Station 21: Dolores River at Bedrock, Colorado
Started: October 30, 1961
Type: Three grab samples per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
January 30-February 24	0.20	6.0
February 27-March 31	0.26	6.4
April 3-April 28	0.25	6.0
May 1-May 24	0.16	2.7
May 24-June 30	0.36	4.1
July 3-July 28	1.0	12
July 31-September 1	0.46	11
Current reporting period:		
Mean	0.38	6.9
Previous year:		
Mean	0.36	7.4
Std. Dev.	0.21	4.8

RMN Station 26: Dolores River at Gateway, Colorado
Started: October 30, 1961
Type: Three grab samples per week

Date	Radium-226 pg/liter	Uranium ug/liter
1967		
February 27-March 29	1.1	17
April 1-April 28	1.1	14
May 1-May 26	0.82	10
May 29-June 30	1.1	9.5
July 3-July 29	1.1	11
July 31-September 1	1.1	14
Current reporting period:		
Mean	1.05	13
Previous year:		
Mean	1.4	25
Std. Dev.	0.75	15

RMN Station 30: Colorado River at U. S.-Mexican Border
Started: July 30, 1962
Type: One grab sample per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 27-March 31	0.18	7.4
April 3-April 28	0.19	7.4
May 2-May 26	0.13	6.8
May 29-June 30	0.20	6.5
July 3-July 28	0.22	6.5
July 31-September 1	0.20	7.6
September 4-September 29	0.12	5.1
Current reporting period:		
Mean	0.18	6.8
Previous year:		
Mean	0.16	6.3
Std. Dev.	0.04	2.3

RMN Station 31: Colorado River at Page, Arizona
Started: May 1, 1963
Type: 300-ml. composite per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
March	0.04	6.4
June	0.07	5.1
July	0.20	6.6
August	0.19	6.9
Current reporting period:		
Mean	0.13	6.3
Previous year:		
Mean	0.15	4.5
Std. Dev.	0.04	0.8

RMN Station 32: Colorado River at (Lake Mead) Boulder City, Nevada
Started: March 11, 1963
Type: One grab sample per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
February 27-March 27	0.36	7.0
April 3-April 24	0.29	7.2
May 1-May 22	0.30	6.4
May 29-June 26	0.31	6.5
July 3-July 24	0.30	6.6
July 31-August 28	0.27	6.9
September 5-September 25	0.29	7.1
Current reporting period:		
Mean	0.30	6.8
Previous year:		
Mean	0.39	6.8
Std. Dev.	0.05	1.2

RMN Station 33: Colorado River at Metropolitan Water District Intake, Lake Havasu, California-Arizona
Started: January 7, 1963
Type: One grab sample per week

Date	Radium-226 pg/liter	Uranium µg/liter
1967		
March 6-March 27	0.38	8.0
April 3-April 24	0.34	8.3
May 1-May 22	0.34	7.3
May 29-June 26	0.35	7.4
July 3-July 24	0.37	6.2
August 1-August 28	0.32	7.1
September 4-September 25	0.33	6.9
Current reporting period:		
Mean	0.35	7.3
Previous year:		
Mean	0.39	7.3
Std. Dev.	0.04	0.8